

eligible persons aged 2–59 years of age. The study objectives were to determine the cost-effectiveness of LAIV compared to TIV in Canadian children and adolescents from a Ministry of Health (MoH) perspective and a societal perspective. **METHODS:** A previously published US cost-effectiveness model using patient-level data to compare LAIV and TIV was supplemented by secondary (e.g. literature) and primary data (i.e. survey of 144 Canadian physicians). To compare the costs and benefits of LAIV and TIV, a cost-utility analysis was conducted. Parameter uncertainty was addressed through probability sensitivity analysis (PSA). **RESULTS:** Although LAIV increased vaccination costs compared to TIV, LAIV reduced the number of influenza illness cases and lowered the number of hospitalizations, ER visits, outpatient visits and parents' days lost from work. The estimated offsets in direct costs saved were \$4.19 per vaccinated child aged 2–17 years. Societal savings were \$35.33 per vaccinated child. When costs and outcomes were considered, LAIV was the dominant strategy when compared to TIV. At a willingness to pay of \$50,000 per QALY gained, the results of the PSA indicated that the probability of LAIV being cost-effective was almost 1. **CONCLUSIONS:** LAIV reduces the burden of influenza in children and adolescents. Consistent with US results, vaccinating children with LAIV instead of TIV is the dominant strategy from a societal and MoH perspective.

PIN35

CLINICAL EFFECTIVENESS AND COST UTILITY OF ENTECAVIR VERSUS LAMIVUDINE AND ADEFOVIR IN CHRONIC HEPATITIS B VIRUS (HBV) PATIENTS IN MEXICO

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OBJECTIVES: To estimate the long-term costs and effectiveness of entecavir compared with lamivudine and adefovir in treating chronic HBeAg-positive infection. **METHODS:** We compare key outcomes related to survival, costs, and QOL for HBV patients. A lifetime Markov model was used to estimate the expected outcomes and costs for HBV patients treated with entecavir vs lamivudine and adefovir. The impact of treating HBV with entecavir, lamivudine and adefovir in patients who are positive for hepatitis B e antigen (HBeAg) was based on the efficacy and safety results of the Phase 3, double-blind, randomized controlled trial. Utility values were derived from published literature. The cost-effective analysis was conducted from the Mexican Healthcare perspective. Costs were derived from the literature and expert interviews, future costs and effects were discounted at 5% per recommendations for analyses in Mexico. All costs are presented in 2010 US dollars. Multiple 1-way sensitivity analyses were performed to address uncertainty. **RESULTS:** The model projects an accumulated discounted cost to the Mexican healthcare system per patient receiving the entecavir regimen of \$28,356 compared to \$28,325 for adefovir and \$27,901 for lamivudine regimen. The base-case analysis presented incremental cost-effectiveness ratios for entecavir vs adefovir and lamivudine of \$123 per QALY and \$1,574 per QALY respectively. These values are in accordance with the recommendations of the Commission on Macroeconomics and Health, WHO, suggesting that health technologies with ICERs below the per capita GDP are considered very cost-effective. Results were robust to various assumptions tested in the sensitivity analysis. **CONCLUSIONS:** Results from this study analyses suggest that in the Mexican setting, use of entecavir in place of adefovir and lamivudine for treatment of HBV is likely to be cost effective. These conclusions are supported by conservative assumptions and sensitivity analysis.

Infection – Patient-Reported Outcomes & Preference-Based Studies

PIN36

ANTIRETROVIRAL REFILL ADHERENCE IN COMMUNITY HIV SPECIALTY PHARMACIES (HIV-SP) VERSUS NON-SPECIALIZED PHARMACIES (NSP)

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OBJECTIVES: Community pharmacies focused on HIV offer enhanced services to assist patients taking antiretrovirals (ARV), yet the impact of these services is unclear. The objective of this study was to determine differences in patient characteristics, regimen characteristics, and regimen refill adherence for HIV-SP versus NSP users. **METHODS:** We conducted a retrospective database study of patients with ARV claims from May 2007 – August 2009 at California Walgreens pharmacies. A modified medication possession ratio (mMPR) was used to calculate regimen refill adherence. Patients were deemed “regimen adherent” on any given study day if they possessed three or more antiretroviral drugs that included: a protease inhibitor, a non-nucleoside reverse transcriptase inhibitor, raltegravir, an entry inhibitor, abacavir, or tenofovir. A patient's regimen adherent days were summed, then divided by the total number of study days contributed to calculate the mMPR. A multivariable logistic regression model was constructed to determine independent factors which contributed to having > 95% regimen refill adherence. **RESULTS:** 4254 HIV-SP and 11679 NSP users were included. Compared to NSP users, HIV-SP users traveled farther to their pharmacies (5.03 vs. 1.26 miles), filled more chronic disease medications (35% vs. 30%) and psychotropics (42% vs. 39%), and received more fixed dose combination (FDC) ARVs (92% vs. 83%); all $p < 0.01$. Median regimen mMPR was higher for HIV-SP users (90% vs. 77%, $p < 0.0001$). After adjustment for various factors, both the use of HIV-SP (OR = 1.79, 95% CI 1.72–2.08) and fixed dose combination ARV tablets (OR = 3.3, 95% CI 2.86–4.01) were associated with a greater likelihood of having >95% regimen refill adherence. **CONCLUSIONS:** Patients filling their prescriptions at HIV-SP are more likely to use fixed dose com-

bination ARV and have higher regimen refill adherence; particularly those taking FDCs. HIV-SP should be further explored to determine whether specific services improve patient adherence.

PIN37

HOW MANY IMMUNIZATION DOSES WERE MISSED IN PEDIATRICES YOUNGER THAN 2 YEARS?

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OBJECTIVES: Immunization dose was considered as a missed immunization dose if pediatric didn't receive at least one immunization dose. The aims of this study are to determine the frequency and percent of missed doses among pediatric immunization schedule, to determine the number of immunization doses missed by each child, and to evaluate the correlation between missed dose frequency and parent's knowledge. **METHODS:** Data was collected retrospectively from 528 pediatric immunization cards in Iraq to obtain the immunization history of each individual child. This study was restricted the analyses to the vaccines administered before age of 2 years. Each pediatric must received seven doses at seven different times, every dose consist of many types of vaccines. Validated questionnaire was used to measure immunization parent's knowledge and Spearman rho correlation test was used to evaluate the correlation between missed dose frequency and parent's knowledge. **RESULTS:** More than 30% of missed immunization doses were shown in the seventh or last dose (OPV+DTP) at 18 months of age. The majority of pediatrics (54.1%) was immunized without any missed immunization dose out of seven immunization doses. Four pediatrics (0.8%) were only having six missed immunization doses. Missed immunization dose found to be negatively correlated with knowledge score (correlation = -0.263, P-value < 0.001). **CONCLUSIONS:** This study suggests that compliance with WHO immunization recommendations is low and inappropriate immunization doses were occurred frequently, and leading to incomplete or partial immunization compliance. With an increase in parent's knowledge of immunization guidelines against infectious agents, it is very important to implement strategies that will lead to improved and developed immunization practice and childhood immunization coverage in the future.

PIN38

RIGHT IMMUNIZATION DOSES RECEIVED BY PEDIATRIC YOUNGER THAN 2 YEARS

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OBJECTIVES: Immunization dose was considered as a right immunization dose if it was administered at the recommended age. The aims of this study are to determine the frequency and percent of this type of doses among pediatric immunization schedule, to determine the number of right immunization dose received by each child, and to evaluate the correlation between right dose frequency and parent's knowledge. **METHODS:** Data was collected retrospectively from 528 pediatric immunization cards in Iraq to obtain the immunization history of each individual child. This study was restricted the analyses to the vaccines administered before age 2 years. Each pediatric must received seven doses at seven times, every dose consist of many types of vaccines. Validated questionnaire was used to measure immunization parent's knowledge and Spearman rho correlation test was used to evaluate the correlation between right doses frequency and parent's knowledge. **RESULTS:** More than 45% of right immunization doses were shown in the first dose (BCG+OPV+HEP B.) at first week of pediatric life. The majority of pediatric (28%) were immunized with one right immunization dose out of seven immunization doses. Four pediatric (0.8%) were only immunized with seven normal immunization doses, while 132 pediatric (25%) were immunized without any dose as right immunization dose. Right immunization dose found to be positively correlated with knowledge score (correlation = 0.358, P-value < 0.001). **CONCLUSIONS:** This study found that compliance with WHO immunization recommendations is low and inappropriate immunization doses were occur frequently, and leading to incomplete or partial immunization compliance. With an increase in parent's knowledge of immunization guidelines against infectious agents, it is very important to implement strategies that will lead to improved and developed immunization practice and childhood immunization coverage in the future.

PIN39

IMMUNIZATION BARRIERS AND SUGGESTED SOLUTIONS IN IRAQ

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OBJECTIVES: Vaccine barriers addressed in this study were included lack of education, lack of funding, lack of vaccine availability, lack of medical facilities, and fear of a side effect. The aims of this study are to determine immunization barriers and to evaluate the solutions suggested by parents. **METHODS:** A cross sectional prospective survey was carried out among 528 Iraqis parents with child had improper immunization schedule to obtained demographic data of immunized children. Translated and validated questionnaire were administered to parents, it consisted of multiple choice questions. The questions were related to the immunization barriers and how to decrease this barrier? **RESULTS:** More than 90% of pediatrics have improper immunization schedule with immunization doses errors. The majority of parents perceived that the lack of vaccine availability was the most common immunization barrier (51.5%), and more than 42% of parents perceived that the lack of education was the important barrier, while 88.4% of parents were thought that the lack of founding wasn't important immunization barrier. More than 60% of parents suggested increasing immunization programs in the media to promote pediatrics immunization, and 44.7% of parents suggested increasing mother's education to promote immunization. But 77.5% of parents thought that any increase in funding will